

Remarks:

Applicants (hereinafter, Applicant) hereby request reconsideration of the application.

Claims 1-28 are now in the application. Claim 1 has been amended. No new matter is believed to have been added.

Claims 13-28 are *withdrawn from consideration*.

In item 3 on page 2 of the Office action, claims 1-3, 5-6 and 9-12 have been rejected as being obvious over Cambou (U.S. Pat. No. 5,283,454) in view of Baba (U.S. Pat. No. 6,317,333) under 35 U.S.C. § 103.

In item 4 on page 4 of the Office action, claim 4 has been rejected as being obvious over Cambou (U.S. Pat. No. 5,283,454) in view of Baba (U.S. Pat. No. 6,317,333) and Gris et al. (U.S. Pat. No. 4,561,932) (hereinafter, "Gris") under 35 U.S.C. § 103.

In item 5 on page 5 of the Office action, claim 7 has been rejected as being obvious over Cambou (U.S. Pat. No. 5,283,454) in view of Baba (U.S. Pat. No. 6,317,333) and Wyland et al. (U.S. Pat. No. 5,962,924) (hereinafter, "Wyland") under 35 U.S.C. § 103.

In item 6 on page 5 of the Office action, claim 8 has been rejected as being obvious over Cambou (U.S. Pat. No. 5,283,454) in view of Baba (U.S. Pat. No. 6,317,333) and Larson et al. (U.S. Pat. No. 6,109,530) (hereinafter, "Larson") under 35 U.S.C. § 103.

The rejections have been noted and claim 1 has been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found at page 3, lines 21-22; page 21, line 22; page 22, line 12; and page 22, line 24 of the specification of the instant application.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 1 calls for, inter alia, an electronic component with shielding against stray electromagnetic fields, the electronic component comprising:

at least one ground lead disposed within said semiconductor substrate and having at least one contact area contacting said upper side of said semiconductor substrate for connecting to said ground potential terminal; and

a continuous electrically conductive buried layer having a surface area corresponding in size to said surface area of said passive rear side and entirely extending over said surface area, said buried layer disposed within said semiconductor substrate adjacent said passive rear side and connected to said ground potential terminal through said ground lead for providing a rear side shielding with said buried layer.

Accordingly, the *present invention* is directed to an electronic component with shielding. The component has a semiconductor chip with a semiconductor substrate. A continuous electrically conductive buried layer is disposed adjacent a rear side of the semiconductor substrate. The buried layer is located closer to the rear side than to the upper side. See Figs. 1-3 of the instant application. Further, the buried layer is connected via a ground lead (disposed within the semiconductor substrate) to a contact area and to an external ground potential.

The *present invention* has the advantage that the active area of the chip can be shielded by the buried layer (on the rear side of the semiconductor substrate). Sensitivity to stray fields (on the rear side of the semiconductor chip) can be reduced by shielding the active area of the chip.

The **Cambou** reference discloses a semiconductor device having a substrate, a semiconductor device (formed in the substrate) with several electrodes, and a "low sheet resistivity buried layer" positioned in the substrate below the semiconductor device (and connecting with one of the electrodes). The buried layer includes a refractory metal. Further, a conductive area is formed in the substrate and is connected to the buried layer so as to provide an external connection to the buried layer.

Thus, *Cambou* teaches a semiconductor device 10. The semiconductor device 10 is formed on a substrate 12 (semiconductor wafer) having a buried layer 14 deposited thereon and a semiconductor layer 16 deposited over the buried layer 14. The buried layer has a very low sheet resistivity. Therefore, *Cambou* does not shield the chip against stray electromagnetic fields.

Accordingly, Applicant submits that the semiconductor device 10 (of *Cambou*) cannot be compared with the present invention, since the **present invention**, inter alia, has: a continuous buried layer extending over the entire surface area of the electronic component; the buried layer disposed within the semiconductor substrate adjacent the passive rear side; a ground lead connected to the buried layer to connect the buried layer to a ground potential terminal, wherein the

ground lead has at least one contact area formed on the upper side of the semiconductor substrate.

Applicant further points out that the remaining applied references do not relate to the technical problem of providing a shielding against stray electromagnetic fields.

Accordingly, neither do the other applied references overcome the deficiencies of Cambou.

Clearly, the references do not show "at least one ground lead disposed within said semiconductor substrate and having at least one contact area contacting said upper side of said semiconductor substrate for connecting to said ground potential terminal; and a continuous electrically conductive buried layer having a surface area corresponding in size to said surface area of said passive rear side and entirely extending over said surface area, said buried layer disposed within said semiconductor substrate adjacent said passive rear side and connected to said ground potential terminal through said ground lead for providing a rear side shielding with said buried layer", as recited in claim 1 of the instant application (emphasis added).

In other words, the features including the limitations "at least one ground lead disposed within said semiconductor substrate and having at least one contact area contacting said

upper side of said semiconductor substrate for connecting to said ground potential terminal; and a continuous electrically conductive buried layer having a surface area corresponding in size to said surface area of said passive rear side and entirely extending over said surface area, said buried layer disposed within said semiconductor substrate adjacent said passive rear side and connected to said ground potential terminal through said ground lead for providing a rear side shielding with said buried layer", as recited in claim 1, attain the present invention's objectives and are not taught or suggested by the references, whether taken alone or in any combination (emphasis added).

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either show or suggest the features of claim 1. Claim 1 is, therefore, believed to be patentable over the art and since dependent claims 2-12 are ultimately dependent on claim 1, they are believed to be patentable as well.

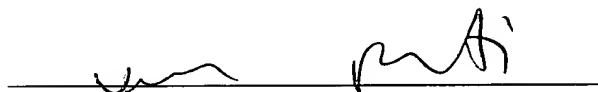
In view of the foregoing, reconsideration and allowance of claims 1-28 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, the Examiner is respectfully requested to

telephone counsel so that, if possible, patentable language can be worked out.

Please charge any fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Ven R. Ponugoti', is written over a horizontal line.

For Applicant

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VRP:cgm

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Claim 1 (amended). An electronic component with shielding against stray electromagnetic fields, the electronic component comprising:

a ground potential terminal for receiving an external ground potential;

a semiconductor chip having a semiconductor substrate with an active upper side and a passive rear side having a surface area;

at least one ground lead disposed within said semiconductor substrate and having at least one contact area contacting said upper side of said semiconductor substrate for connecting to said ground potential terminal; and

a continuous electrically conductive buried layer [being electrically conductive and] having a surface area corresponding in size to said surface area of said passive rear side and entirely extending over said surface area, said

buried layer disposed within said semiconductor substrate
adjacent [in a region of] said passive rear side and connected
to said ground potential terminal through said ground lead for
providing a rear side shielding with said buried layer]; and

at least one contact area disposed on said upper side of said
semiconductor substrate].